



**NTSB** National Transportation Safety Board

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*Office of Aviation Safety*



# Flight Crew Performance

# Captain's Experience

- Flight hours
  - 3,140 hours total
  - Learjet 60: 35 hours total,  
8 hours as pilot-in-command (PIC)
- Captain PIC in two type airplanes,  
limited experience in each
- Part 135: No minimum experience  
requirements for PIC in type



# Training for RTOs

- Rejected takeoff (RTO) criteria
  - Before 80 kts: any anomaly
  - 80 kts -  $V_1$ : major anomalies
  - Above  $V_1$ : continue takeoff
- RTO simulator training: engine failures at/around  $V_1$
- No training on tire failures

# Pretakeoff Briefing

- Captain incorrectly briefed RTO between  $V_1$  and  $V_2$ 
  - Contrary to training, procedures
  - $V_2$  occurs after rotation speed
- “Slip of the tongue”
- RTO after  $V_1$  - startled from event



# Guidance on RTOs

- FAA's "Takeoff Safety Training Aid"
  - Tire failures difficult to identify
  - Pilots cautioned: Do not mistakenly RTO for tire failure
- NTSB Special Investigation Report: High-speed RTOs for tires common
- Typically no training for tire failures

# Crew Resource Management

- Crew had some CRM training
- CRM skills exhibited not effective
  - Incorrect information read back
  - No direct challenge to captain's incorrect RTO briefing
  - Captain lacked leadership, wavered
- Incomplete FAA action for Part 135 CRM training requirements





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